Statement of Basis - Narrative
NSR Permit

Type of Permit Action: Regular-Significant Revision

Facility: Maverick Compressor Station
Company: XTO Energy, Inc.
Permit No(s).: 7565-M2
Tempo/IDEA ID No.: 38149 - PRN20210001
Permit Writer: Julia Kuhn

Fee Tracking (not required for Title V)

Tracking	**NSR tracking entries completed:** [X] Yes [] No
	NSR tracking page attached to front cover of permit folder: [] Yes [] No NA
	Paid Invoice Attached: [X] Yes [] No
	Balance Due Invoice Attached: [] Yes [X] No
	Invoice Comments: $15,120 paid in full

1.0 Plant Process Description:

Field gas flows into two inlet slug catchers. The site uses natural gas engines to compress the field gas to 1200-1300 psig, including nine (9) Caterpillar 3616TA engines (ENG1-ENG9) and two (2) Caterpillar 3516J engines (ENG11-ENG12). The Caterpillar engines are equipped with oxidation catalysts to reduce CO, VOC, and formaldehyde emissions.

The high-pressure gas is then dehydrated using triethylene glycol dehydration units (DEHY1-DEHY3), each handling up to 80 MMscfd each. Flash tank vapors are routed back to mixing with the inlet gas. For up to 438 hours, flash vapors are routed to the flares (FL1 - FL3). Each dehydrator is equipped with a condenser. Condensed liquids are routed to the skim tank and any remaining gas is burned at the flares (FL1 - FL3).

Low pressure liquids generated anywhere in the system are routed to a low pressure three phase separator (LPS). Vapors from the LPS are controlled by a VRU and routed to compression. When the LPS-VRU is not operational, vapors from the LPS are routed to the flare system (FL1-FL3). From the LPS, oil at approximately 15 psig is dumped to four (4) oil storage tanks (OT1-OT4), which are controlled by the flare system (FL1-FL3). Water from the LPS flows to redundant skim tanks (SKT1/SKT2). The skim tanks are arranged as a redundant system in which one unit can be used if another is down for unforeseen circumstances. Water is then dumped to two (2) water tanks (WT1-WT2).

Any residual oil flows from the skim tanks into the oil storage tanks. The oil from the oil storage tanks are then pumped back into the high pressure three phase separator (HPS), to be transferred offsite via pipeline. Vapors from the water storage tanks and skim tanks are also controlled by the flare system (FL1-FL3). Oil can be trucked offsite or pumped offsite via pipeline, water is transferred offsite via pipeline to saltwater disposal (SWD).

High pressure liquids generated anywhere in the system are routed to high pressure three phase separator (HPS). Vapors from the high-pressure separator are routed back to the inlet slug catchers. From the HPS, liquid hydrocarbons at approximately 400 psig are transferred offsite via pipeline pipeline. Water from the HPS is transferred offsite via pipeline to SWD.

The flare system (FL1-FL3) is also used to flare gas in the event of an emergency.

2.0 Description of this Modification:

XTO Energy Inc. is planning modification of the Maverick Compressor Station in Eddy County, NM. The facility is a typical compressor station with natural gas engines, dehydration, storage tanks, and flares. Site construction is planned under NSR Permit 7565-M1. This is a New Source Review permit application being submitted in accordance with 20.2.72 NMAC.

Routine SSM combustion emissions are included with the regular emissions of the facility. SSM emissions from equipment maintenance are routed to either the low-pressure or high-pressure flare header (FL1-FL3). SSM-related VOC emissions (tank landings/cleanings) are included at a rate of 10 tons per year per NMAQB guidance.

The facility is proposing the following modifications:

1) Remove HTR2 and HTR3;
2) Remove ENG10 and ENG13;
3) Increase glycol circulation rate for DEHY1-3;
4) Decrease glycol regenerator reboiler (RB1-RB3) unit heat input from 3 MMBtu/hr to 2.0 MMBtu/hr;
5) Increase Dehy SSM from 200 hrs to 300 hrs;
6) Add SSM for dehy flash tank vapors to be combusted in FL1-FL3;
7) Increase flare purge gas rates;
8) Update FL1-FL3 heights to 145';
9) Update tank throughputs;
10) Decrease condensate truck loading;
11) Add inlet gas flaring;
12) Increasing steady state flaring associated with increased tank throughput and glycol circulation rate; update sources that vent to flare;
13) Update ENG1-9 and ENG11-12 VOC/formaldehyde/CO control efficiencies and update emissions factors from Caterpillar Gas Engine Rating Pro (GERP) analysis;
14) Update nomenclature of Gb1a and GB2a to SKT1 and SKT2;
15) Update facility location coordinates;
16) Update low pressure separator pressure from 2 psig to 15 psig;
17) Added VOC malfunction emissions.

3.0 Source Determination:

1. The emission sources evaluated include Maverick Compressor Station.

2. Single Source Analysis:
   A. SIC Code: Do the facilities belong to the same industrial grouping (i.e., same two-digit

SIC code grouping, or support activity)? Yes

B. Common Ownership or Control: Are the facilities under common ownership or control? Yes

C. Contiguous or Adjacent: Are the facilities located on one or more contiguous or adjacent properties? Yes

3. Is the source, as described in the application, the entire source for 20.2.70, 20.2.72, 20.2.73, or 20.2.74 NMAC applicability purposes? Yes

4.0 PSD Applicability:

A. The source, as determined in 3.0 above, is a minor source before and after this modification.

5.0 History (In descending chronological order, showing NSR and TV): *The asterisk denotes the current active NSR and Title V permits that have not been superseded.

Permit Number	Issue Date	Action Type	Description of Action (Changes)
7565-M2	2/11/2022	Significant Revision	Revision of emission factors, removal & addition of some equipment, increase of tank throughput and steady state flaring. See detailed information on the previous page.
7565-M1	02/06/2019	Significant Revision	With this revision, XTO plans to increase gas throughput and replace many of the engines previously permitted. Additionally, the dehydration systems will be modified, the VRU and VRT removed, a low-pressure separator (LPS) added, and a Caterpillar 3306 TA (203 hp) added.
7565	03/07/2018	NSR - New	Initial issuance

6.0 Public Response/Concerns: On May 20, 2021, the Air Quality Bureau (AQB) received via email, a request for a Public Hearing from WildEarth Guardians (WEG) for the 20.2.72 NMAC NSR Significant Revision of the Maverick Compressor Station. A Copy of the comments can be found in the Administrative Record, as well as Tempo. The first AQB citizen letter was sent to WildEarth Guardians on May 24, 2021.

A hearing request was submitted to the Secretary and held October 25, 2021. The Hearing Officer issued a recommendation on December 27, 2021. On February 10, 2022 the Deputy Cabinet Secretary granted the issuance of the permit.

7.0 Compliance Testing:

Unit No.	Compliance Test	Test Dates
ENG1, ENG2, ENG3, ENG5, ENG11, ENG12	Tested as required by 40 CFR 60 Subpart JJJJ and 40 CFR 63 Subpart ZZZZ for NOx, CO, VOC, and HCHO	9/14/20 – 9/17/20
ENG6, ENG4	Tested as required by 40 CFR 60 Subpart JJJJ and 40 CFR 63 Subpart ZZZZ for NOx, CO, VOC, and HCHO	12/7/20

8.0 Startup and Shutdown:

A. If applicable, did the applicant indicate that a startup, shutdown, and emergency operational plan was developed in accordance with 20.2.70.300.D(5)(g) NMAC? NA
B. If applicable, did the applicant indicate that a malfunction, startup, or shutdown operational plan was developed in accordance with 20.2.72.203.A.5 NMAC? Yes
C. Did the applicant indicate that a startup, shutdown, and scheduled maintenance plan was developed and implemented in accordance with 20.2.7.14.A and B NMAC? Yes
D. Does the facility have emissions due to routine or predictable startup, shutdown, and maintenance? If so, have all emissions from startup, shutdown, and scheduled maintenance operations been permitted? Yes

9.0 Compliance and Enforcement Status: Contacted Allan Morris on 4/12/2021 via email to verify Compliance and Enforcement status but as of today, I did not obtain a reply.

10.0 Modeling:

The current Modeling Report was completed on June 7, 2021 by Eric Peters. The following types of emission sources are included in the project: flares, glycol regenerator reboilers, haul roads, and natural gas compressor engines.

Modeling Assumptions: The facility operates continuously. Maximum flare rate can be distributed between three flares.

Conclusion:

This modeling analysis demonstrates that operation of the facility described in this report neither causes nor contributes to any exceedances of applicable air quality standards. The standards relevant at this facility are NAAQS for CO, NO2, PM10, PM2.5, and SO2; NMAAQS for CO, NO2, and SO2; and Class I and Class II PSD increments for NO2, PM10, PM2.5, and SO2.

Action: The permit can be issued based on this modeling analysis.

From previous SOB: Angela Raso approved modeling waivers on November 20, 2018 for the Eagle, Tiger, Maverick and Spartan Compressor Stations, based on Air Dispersion Modeling conducted for the Wildcat Compressor Station (NSR 7474M1). These 5 compressor station applications all use an identical site design, with identical allowable emissions, as represented by the applicant. The modeling analysis for the Wildcat Compressor station was done by Angela Raso. The following is from her report, dated 11/19/2018:

Permit Conditions: No additional conditions are required by this modeling.

Conclusion:

This modeling analysis demonstrates that operation of the facility described in this report neither causes nor contributes to any exceedances of applicable air quality standards. The standards relevant at this facility are NAAQS for NO2, PM10, and PM2.5; NMAAQS for NO2; and Class I and Class II PSD increments for NO2, and PM10.

Action: The permit can be issued based on this modeling analysis.

11.0 State Regulatory Analysis(NMAC/AQCR):

STATE REGU-LATIONS Citation 20 NMAC	Title	Applies (Y/N)	Unit(s) or Facility	Justification:
2.1	General Provisions	Yes	Entire Facility	The facility is subject to Title 20 Environmental Protection Chapter 2 Air Quality of the New Mexico Administrative Code so is subject to Part 1 General Provisions, Update to Section 116 of regulation for Significant figures & rounding. Applicable with no permitting requirements.
2.3	Ambient Air Quality Standards	Yes	Entire Facility	20.2.3 NMAC is a SIP approved regulation that limits the maximum allowable concentration of Sulfur Compounds, Carbon Monoxide and Nitrogen Dioxide.
2.7	Excess Emissions	Yes	Entire Facility	Applies to all facilities' sources
2.38	Hydrocarbon Storage Facilities	Yes	OT1-4	20.2.38 NMAC This regulation could apply to storage tanks at petroleum production facilities, processing facilities, tanks batteries, or hydrocarbon storage facilities.
2.61	Smoke and Visible Emissions	Yes	FL1-3, RB1-3, ENG1-9, ENG11-12, HTR1	This regulation that limits opacity to 20% applies to Stationary Combustion Equipment, such as engines, boilers, heaters, and flares unless your equipment is subject to another state regulation that limits particulate matter such as 20.2.19 NMAC (see 20.2.61.109 NMAC).
2.70	Operating Permits	Yes	Entire Facility	The source is a Title V Major Source as defined at 20.2.70.7 NMAC.
2.71	Operating Permit Fees	Yes	Entire Facility	Source is subject to 20.2.70 NMAC as cited at 20.2.71.109 NMAC.
2.72	Construction Permits	Yes	Entire Facility	NSR Permits are the applicable requirement, including 20.2.72 NMAC.
2.73	NOI & Emissions Inventory Requirements	Yes	Entire Facility	Applicable to all facilities that require a permit. PER **>** 10 tpy for a regulated air contaminant.
2.74	Permits-Prevention of Significant Deterioration	No	NA	The facility is not a major PSD site.
2.75	Construction Permit Fees	Yes	Entire Facility	This facility is subject to 20.2.72 NMAC.
2.77	New Source Performance Standards	Yes	See Sources subject to 40 CFR 60	Applies to any stationary source constructing or modifying and which is subject to the requirements of 40 CFR Part 60.

STATE REGU-LATIONS Citation 20 NMAC	Title	Applies (Y/N)	Unit(s) or Facility	Justification:
2.78	Emissions Standards for HAPs	No	See Sources subject to 40 CFR 61	This regulation applies to all sources emitting hazardous air pollutants, which are subject to the requirements of 40 CFR Part 61.
2.79	Permits - Nonattainment Areas	No	NA	This facility is not located in, not does it affect, a nonattainment area. Link to Non-attainment Link areas
2.82	MACT Standards for Source Categories of HAPs	Yes	See sources subject to 40 CFR 63	This regulation applies to all sources emitting hazardous air pollutants, which are subject to the requirements of 40 CFR Part 63.

12.0 Federal Regulatory Analysis:

Federal Regulation	Title	Applies (Y/N)	Unit(s) or Facility	Comments
Air Programs Subchapter C (40 CFR 50)	National Primary and Secondary Ambient Air Quality Standards	Yes	Entire Facility	Independent of permit applicability; applies to all sources of emissions for which there is a Federal Ambient Air Quality Standard.
NSPS Subpart A (40 CFR 60)	General Provisions	Yes	See sources subject to a Subpart in 40 CFR 60	Applies if any other subpart applies. Subparts JJJJ and OOOOa apply.
40 CFR Part 60 Subpart JJJJ (Quad -J)	Standards of Performance for Stationary Spark. Ignition Internal Combustion Engines	Yes	ENG1-9, ENG11-12 TBD	The provisions of this subpart are applicable to manufacturers, owners, and operators of stationary spark ignition (SI) internal combustion engines (ICE) as specified in paragraphs (a)(1) through (5) of section 60.4230. For the purposes of this subpart, the date that construction commences is the date the engine is ordered by the owner or operator. Units ENG1-ENG9 are all 4SLB with 5,000 hp and constructed after July 1, 2007. Units ENG11-ENG12 are 4SLB with 1,380 hp and constructed after July 1, 2007. These units are all subject to this subpart. Applicability determination will be made for Units ENG7-ENG9 upon installation. Per §60.4230(a)(4), Units ENG1-ENG6 &

Federal Regulation	Title	Applies (Y/N)	Unit(s) or Facility	Comments
				ENG11-ENG12 are subject: Owners and operators of stationary SI ICE that commence construction after June 12, 2006, where the stationary SI ICE are manufactured: (i) On or after July 1, 2007, for engines with a maximum engine power greater than or equal to 500 HP. All units are subject to emission limitations per Table 1 in the subpart.
NSPS 40 CFR Part 60 Subpart OOOO (Quad -O)	Standards of Performance for Crude Oil and Natural Gas Production, Transmission and Distribution for which construction, modification or reconstruction commenced after August 23, 2011 and before September 18, 2015	No	NA	The site will be constructed after 9/18/15. Therefore, this regulation does not apply.
NSPS 40 CFR Part 60 Subpart OOOOa	Standards of Performance for Crude Oil and Natural Gas Facilities for which Construction, Modification or Reconstruction Commenced After September 18, 2015	Yes	FUG, Compressors for ENG1-9, ENG11-12	The site is subject to leak monitoring from fugitive components, per §60.5397a. The storage tanks were constructed after the applicability date of the rule; however, the emissions will be limited by permit to less than 6 tpy. The regulation is applicable to the storage tanks, but the tanks are not affected sources. The site uses low-bleed pneumatic controllers. The site is subject to leak monitoring from fugitive components. Per §60.5365a(c), the compressors associated with engines (ENG1-9, ENG11-12) are subject to the control standards of §60.5385a.
MACT Subpart A (40 CFR 63)	General Provisions	Yes	See sources subject to a Subpart in 40 CFR 63	Applies if any other subpart applies.
40 CFR 63.760 Subpart HH	Oil and Natural Gas Production Facilities –	Yes	DEHY1-3	The facility is a natural gas production field facility, located prior to the point of custody transfer, under definitions in 63.761. Therefore, the definition of

Federal Regulation	Title	Applies (Y/N)	Unit(s) or Facility	Comments
				Major Source in 63.761 provides that only HAP emissions from glycol dehydration units and storage vessels shall be aggregated for a major source determination. AREA SOURCE (Minor for HAPs): given the definitions above, this facility is an area source under HH. The facility contains affected sources (TEG glycol dehydrators, 63.760(b)(2)). The dehydrators process more than 3 mmscfd; however, since benzene emissions are less than one ton per year (63.764(e)(1)), the dehydrators are exempt, and the records of the determination must be maintained as required in §63.774(d)(1).
40 CFR 63 Subpart ZZZZ (Quad Z)	National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE MACT)	Yes	ENG1-9, ENG11-12	A facility is subject to this subpart if they own or operate a stationary RICE at an area source of HAP emissions, except if the stationary RICE is being tested at a stationary RICE test cell/stand. After acquisition of Units ENG7-ENG9, a determination of applicability will be made for each engine. 4SLB Units ENG1-ENG6 and ENG11-ENG12 meet the definition of new stationary RICE at §63.6590(a)(2). The units have a site rating of more than 500 hp located at a major source of HAP emissions and commenced operation after December 19, 2002.
40 CFR 64	Compliance Assurance Monitoring	No	NA	The facility is not subject to CAM under 20.2.72 NMAC
40 CFR 68	Chemical Accident Prevention	No	NA	The facility does not store any chemicals above the threshold quantity of a regulated substance in a process, as determined under §68.115 Threshold determination and 68.130 List of substances.
40 CFR 70	Title V- State Operating Permit Programs	No	NA	Operating Permit Program – is not applicable – New Mexico State has full delegated authority and Title V is administered under 20.2.70 NMAC.

Federal Regulation	Title	Applies (Y/N)	Unit(s) or Facility	Comments
Title VI – 40 CFR 82	Protection of Stratospheric Ozone	No	NA	The facility does not service, maintain, or repair equipment containing refrigerants.

13.0 Exempt and/or Insignificant Equipment that do not require monitoring:

Unit Number	Source Description	Manufacturer	Model No.	Max Capacity	List Specific 20.2.72.202 NMAC Exemption (e.g. 20.2.72.202.B.5)
			Serial No.	Capacity Units	Insignificant Activity citation (e.g. IA List Item #1.a)
ROAD	Haul Road Emissions	N/A	N/A	N/A	20.2.72.202.B.5
			N/A	N/A	20.2.72.202.B.5

14.0 New/Modified/Unique Conditions (Format: Condition#: Explanation):

A. Date of Monitoring Protocol used for IC Engines: December 11, 2019
B. Date of Monitoring Protocol used for Tanks & Loading: September 19, 2017
C. Date of Monitoring Protocol used for Glycol Dehydrators: February 12, 2018
D. Date of Monitoring Protocol used for Boilers/Heaters: protocol August 18, 2017
E. Date of NSR Part A. Permit template is November 22, 2019.
F. A106.B: Added Table 106.B.
G. A107.D: Added SSM Flaring conditions.
H. A107.E: Added Malfunction Venting emissions.
I. A107.F Added condition for DEHY SSM for 300 hours/year.
J. A110.A: Revised/Corrected grains of total sulfur per 100 dry standard cubic feet.
K. A111.A: Removed FL1, FL2, and FL3 from this condition.
L. A201.A: Removed Notification of Catalysts Installation.
M. A201G: 40 CFR 60, Subpart OOOOa condition was moved to Section A209.B
N. A201.E: Removed condition corresponding to ENG13. Condition is no longer applicable because ENG13 was removed.
O. A203.D: New condition added Low Pressure Separator (LPS) and Control Devices (Vapor Recovery Units VRU1, VRU2 and Flares FL1, FL2).
P. A206.C: Removed Flare Emissions and added new Flare Emissions Calculation.
Q. A209.B: Added condition for Reciprocating Compressors associated with the engines.

15.0 For Title V action: Cross Reference Table between NSR Permit 7565M2 and TV Permit. NSR permit conditions cross referenced to the TV permit are federally enforceable conditions, and therefore brought forward into the TV permit:

Not Required, a TV permit has not been issued.

16.0 Permit specialist's notes to other NSR or Title V permitting staff concerning changes and updates to permit conditions.

A. This facility, as proposed, is a major source and therefore a Title V facility, once operations begin as represented in the application.
B. A 40 CFR 64 Compliance Assurance Monitoring applicability analysis should be determined and, if appropriate, include the plan in the initial TV application for engines, dehydrators, and/or tanks.
C. Notes on hazardous air pollutants (HAPs) and toxic air pollutants (TAPs):

The contents of an NSR application, per 20.2.72.403.A(1) NMAC, shall contain the identification of all toxic air pollutants that may be emitted in excess of the screening level (specified in pounds per hour) in 20.2.72.502.NMAC.

Maverick Compressor Station is not a gas processing plant or a refinery and, therefore, meets the definition of an oil and gas production facility, per 20.2.72.401.F NMAC. As an oil and gas production facility, it is exempt (in 20.2.72.402.C NMAC) to applicability and any requirements of 20.2.72.400 NMAC - 20.2.72.405 NMAC for toxic air pollutants.

The facility is required to report the Potential to Emit from any HAP at rate greater than or equal to one ton per year. HAPs are subsets of Volatile Organic Compounds (VOCs) and are typical in the oil and gas sector. The facility's Total HAPs are greater than 25 tpy and formaldehyde is greater than 10 tpy.